

VOLODINSKI, ALEKSANDR NIKOLAYEVICH

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AVTOMATICHESKAYA TELEFONNAYA SVYAZ' (AUTOMATIC TELEPHONE COMMUNICATION)
MOSKVA, TRANSZHELDORIZDAT, 1958.
231 P. ILLUS., DIAGRS., TABLES.

VOLOTSKOY, A. N.

DAVIDOVSKIY, V.M.; VOLOTSKOY, A.N., KUDINOV, V.V.; POGODIN, A.M.;
MARKOV, M.V., inzhener, redaktor.

[Communication in railroad transportation] Sviyaz' na zheleznodoro-
zhnom transporte. Moskva, Gos. transp. shel-dor. izd-vo, 1953.
611 p. (MLRA 7:8)
(Railroads--Telephone)

VOLOTSKOY, A.N., inzhener.

Elements in the theory of relay-contact circuits. Vest.sviazi 7
no.7:16-18 J1 '47. (MIRA 9:1)
(Telephone lines--Construction)

VOLOTSKOY, A.N.

SHUPOV, V.I., kandidat tekhnicheskikh nauk; VOLOTSKOY, A.N., inzhener;
DEREVYANKO, N.S., kandidat tekhnicheskikh nauk; ~~RODINOV~~, V.V.,
inzhener; STROGANOV, L.P., inzhener, redaktor; VERINA, G.P.,
tekhnicheskii redaktor.

[Automatic telephone communication in railroad transport]
Avtomaticheskaya telefonnaya svyaz' na zheleznodorozhnom
transporte. Moskva, Gos.transp.zhel-dor. izd-vo, 1956. 173 p.
(Moscow. Vsesoyuznyi nauchno-issledovatel'skii institut
zheleznodorozhnogo transporta. Trudy, no. 118). (MLRA 9:10)
(Railroads--Communication systems)
(Telephone, Automatic)

VOLOTSKOY, A.N., inzhener.

Circuits for semiautomatic telephone systems. Avtom., telem. i svyaz'
no.3:24-28 Mr '57. (MLBA 10:4)

(Telephone, Automatic)

VOLOTSKOY, A.N., inzh.

Crossbar system. Avtom., telem. i sviaz' no.9:11-16 S '57.

(MIRA 11:4)

(Telephone, Automatic)

VOLOTSKOI, A. I.

Manual for the electrician and repairmen of the local telephone station and network
Izd. 3., dop. i ispr. Moskva, Gos. transp. zhel-dor. izd-vo, 1952. 399 p. (53-26802)

TK6211.R85 1952

1 . Telephone stations. I. Volotskoi, A.I.

VOLOTSKOY, A.N.

Svyaz'na Zheleznodorozhnom Transporte (Communication on The Railroad, by)
V. M. Davydovskiy, A. N. Volotskoy, V. V. Kudinov, A. M. Pogodin. Moskva, Izdatel'stvo
dorisdat, 1953.
611 P. Diagr., Tables.

SO: N/5
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VOLOTSKOY, Aleksandr Nikolayevich, inzh.; STROGANOV, L.P., inzh., red.;
BOBROVA, Ye.N., tekhn.red.

[Manual for the electrician and repairman of the local telephone station and network] Rukovodstvo elektromekhaniku i monteru mestnoi telefonnoi stantsii i seti. Izd. 4-oe, perer. Moskva, Gos.transp. Zhel-dor.izd-vo, 1957. 287 p. (MIRA 10:12)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya.
(Telephone--Handbooks, manuals, etc.)

VOLOTSKOY, D.V. inzhener.

Repairing old rails. Put' i put. khoz. no.7:10-13 JI '57.

(MIRA 10:8)

1. Nachal'nik sluzhby puti Kazanskoy dorogi.
(Railroads--Rails)

VOLOTSKOY, N.V., kand.tekhn.nauk

A few remarks concerning the new project of Chapter II-V-6 of
"Construction Specifications and Regulations." Svetotekhnika
7 no.10:27-28 0 '61. (MIRA 1,19)

1. Lenproyekt.
(Electric lighting—Standards)

VOLOTSKOY, N.V.

Concerning the "Instructions on the design of municipal electrical networks (block networks with potentials up to 1000 volts in cities and large settlements). Issued by the State Committee on Construction of the Council of Ministers of the U.S.S.R. (SN-167-61). Trudy LIEI no.51:315-316 '64. (MIRA 18:11)

VOLOTSKOY, Nikolay Vasil'yevich; LEVITIN, I.B., red.; ZHITNIKOVA,
O.S., tekhn. red.

[Fluorescent lamps and diagrams for connecting them to the
electrical network] Liuminestsentnye lampy i skhemy ikh vklju-
chenia v set'. Moskva, Gosenergoizdat, 1962. 43 p. (Biblio-
teka elektromontera, no.68) (MIRA 15:12)
(Electric lighting) (Fluorescent lamps)

VOLOTSKOY, N.V., kand.tekhn.nauk

Present-day trends in the lighting of public buildings.
Svetotekhnika 8 no.7:16-20 J1 '62. (MIRA 15:6)
(Electric lighting—Standards)
(Lighting, Architectural and decorative)

TOPOLYANSKIY, A.B.; VOLOTSKOY, N.V., kandidat tekhnicheskikh nauk, redaktor;
KAPLAN, M.Ya., redaktor; FOL'KINA, Ye.A., tekhnicheskij redaktor

[Ways of economizing on electricity in construction] Puti ekonomii
elektroenergii v stroitel'stve. Leningrad, Gos.izd-vo lit-ry po
stroitel'stvu i arkhitekture, 1955. 109 p. (MLRA 9:1)
(Electric engineering)

VOLOTSKOY, N.V., kand. tekhn. nauk

Street lighting abroad. Svetotekhnika 8 no.2:26-28 F '62.
(MIRA 15:1)

1. Lenproyekt.

(Street lighting)

VOLOTSKOY, Nikolay Vasil'yevich; KNORRING, Gleb Mikhaylovich;
RYABOV, Mikhail Sergeyevich; SHAYKEVICH, Aleksandr
Semenovich; KLYUYEV, S.A., nauchn. red.; KNORRING, G.M.,
nauchn. red.

[Electrical lighting of industrial and public buildings]
Elektricheskoe osveshchenie proizvodstvennykh i grazh-
danskikh zdaniy. [by] N.V.Volotskoi i dr. Moskva,
Energia, 1964. 767 p. (MIRA 18:2)

NUONERIVVY, F.I., head. Nakh. Army KODIN, F.I., head. Nakh. Army.

Studies on the possibility of launching operations for the
the launching of boats with a large float structure. Navy. date
no. 57/11. 209. 200. 165. (NIR 18-11)

1. Dnepropetrovskiy gorod. 1948-1951.

VOLOV, A.T., tekhnik

There are no more industrial accidents in boring operations.
Bezop.truda v prom. 4 no.7:30 J1 '60.

(MIRA 13:8)

(Boring--Safety measures)

VOLOTSKOY, D.V.

Improving the quality of rails. Put' 1 put. khoz. 4 no. 5:23-
24 My '60. (MIRA 13:11)

1. Glavnyy inzhener sluzhby puti, Kazan'.
(Railroads--Rails)

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AUTHOR: Volov, G.M.

SOV/55-59-3-5/32

TITLE: A Problem on the Equilibrium of a Rectangular Solid for Mixed Boundary Conditions

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, Nr 3, pp 35-42 (USSR)

ABSTRACT: Let $\theta = \frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} + \frac{\partial w}{\partial z}$ be the deformation of volume, Δ - the Laplace operator, σ - the Poisson coefficient. In the parallelepiped $|x| \leq a$, $|y| \leq b$, $|z| \leq c$ let the components u, v, w satisfy the Lamé equations

$$(1) \quad \frac{1}{1-2\sigma} \frac{\partial \theta}{\partial x} + \Delta u = 0, \dots$$

Under the assumption of certain boundary conditions which are representable by double Fourier series, (1) is solved rigorously with the aid of very complicated series representations given by the author in [Ref 7]. The coefficients of the mentioned series can be obtained explicitly from the boundary conditions. The proof of convergence for the series can be given if the Fourier coefficients of the boundary functions have a certain

Card 1/2

A Problem on the Equilibrium of a Rectangular
Solid for Mixed Boundary Conditions

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order of magnitude. As an example the author considers a
steel cube.

The author mentions M.M.Filonenko-Borodich, Ye.S. Kononenko,
V.P.Netrebko, and B.F.Vlasov.

There is 1 table, and 8 Soviet references.

ASSOCIATION: Kafedra teorii uprugosti (Chair of Theory of Elasticity) ✓

SUBMITTED: January 12, 1959

Card 2/2

VOLOVICH, N. I.

32756. VOLOVICH, N. I. i ZLATOPOL'SKAYA, R. D. Aktivnaya immanisatsiya protiv skarlatiny. Trudy ukr. In-ta zpidemiologii i mikrobiologii im. Mechnikova, T. XVI, vyp. 1, 1949, s. 45-80.—bibliogr: s. 77-80

SO: Letopis' Zhurnal'nykh Statey, Vol. 44, Moskva, 1949

VOLOTSKOY, N.V., kand.tekhn.nauk

Practical methods for lighting class rooms. Svetotekhnika 7
no.9:4-8 S '61. (MIRA 14:9)

1. Lenproyekt. (School houses--Lighting)

GLANTS, Yu.A., inzh.; FINGER, L.M., inzh.; NIKOGOSOV, S.M., kand. tekhn. nauk (Leningrad); MEDVEDSKIY, N.I., inzh. (Leningrad); VOLOTSKOY, N.V., kand. tekhn. nauk; BRESSMERIYY, I.S., kand. tekhn. nauk (Moskva); VORONTSOV, F.F., kand. tekhn. nauk (Moskva).

Urgent problems relative to the theory of urban power networks.
(MIRA 11:3)
Elektrichestvo no.12:73-78 D '56.

1. Khar'kovskoye otdeleniy Teploelektroproyekta (for Glants).
 2. Giprokommunenergo (for Finger).
 3. Leningprogor (for Medvedskiy).
 4. Lenproyekt (for Volotskoy).
- (Electric networks) (Electric power distribution)

DREMYATSKIY, N.S.; KARPOV, V.V.; VOLOTSKOY, N.V., kand.tekhn.nauk, retsenzent; KLEYIN, P.N., inzh., retsenzent; NAVYAZHSKIY, L.G., red.; KAPLAN, M.Ya., red.izd-va; PUL'KINA, Ye.A., tekhn.red.

[Handbook for electrical engineers for residences and public buildings. Edited by L.G.Naviashskii] Spravochnik proektirovaniya-elektrika zhilykh i grazhdanskikh zdaniy. Pod red. L.G.Naviashskogo. Leningrad, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1959. 247 p.

(MIRA 13:1)

(Electric engineering--Handbooks, manuals, etc.)

VOLOTSKOY, Nikolay Vasil'yevich, kand. tekhn.nauk; NOVIKOV, V.V., doktor tekhn.nauk, prof., nauchnyy red.; DENISOV, Yu.M., red.izd-va; GRIGOR'YEVA, I.B., red.izd-va; PROKOF'YEV, R.V., tekhn.red.; PUL'KINA, Ye.A., tekhn. red.

[Lighting engineering; a manual for architects] Svetotekhnika; posobie dlia arkhitektorov. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit.i stroit.materialam, 1961. 153 p. (MIRA 14:12)
(Electric lighting) (Lighting, Architectural and decorative)

TIKHODEYEV, P.M.; FEDOROV, B.F.; VOLOTSKOY, N.V.; TELYAT'YEV, V.V.; ZIL'BER, D.A.;
SAPOZHNIKOV, R.A.; SHAYKEVICH, A.S.; KIORRING, G.M.; SEREBRYAKOV, V.M.;
DADIOMOV, M.S.; LEVIT, G.O.

Professor Viacheslav Vasil'evich Novikov; on his 70th birthday.
Svetotekhnika 5 no.2:30 P '59. (MIRA 12:1)
(Novikov, Viacheslav Vasil'evich, 1888-)

ASHKENAZI, G. I., inzh.; SUKHOV, N. K., kand. tekhn. nauk; VOLOTSKOY, N. V.,
kand. tekhn. nauk

Letters to the editor. Svetotekhnika 6 no. 11:21 N '60.
(MIRA 13:11)

(Electric lighting)

GORMAN, A.I., kand.tekhn.nauk; DEMBO, A.R., kand.tekhn.nauk; VOLOTSKOY, N.V., kand.tekhn.nauk, nauchnyy red.; TIMOFEYEV, V.A., doktor tekhn.nauk, retsenzent; TOLSTOY, M.O., kand.tekhn.nauk, retsenzent; ROTENBERG, A.S., red.izd-va; VORONETSKAYA, L.V., tekhn.red.

[Automatic control in the construction industry] Avtomatika v stroitel'stve. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 183 p. (MIRA 12:8)
(Automatic control) (Construction industry)

VOLOTSKOY, Nikolay Vasil'yevich

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VOLOTSKOY, Nikolay Vasil'yevich

Lyuminestentnoye osveshcheniye (Luminescent lights, by) N. V. Volotskoy,
D.A. Zil'ber i G.M. Knorring. Moskva, Gosenergoizdat, 1955.
304 p. illus., diagra., tables.
Literatura: 302-304.

1. VOLOTSKOY, N. V.; AIZENBERG, B. L., Docent
2. USSR (600)
4. Serbinovskii, G. V.
7. Remarks on E. S. Iokhvidov's and G. V. Serbinovskii's article "Schemes of city networks in connection with multiple story building construction." Elektrichestvo. No. 10, 1952.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

VOLOTSKOY, N.V., kandidat tekhnicheskikh nauk.

Illumination of schoolrooms. Svetotekhnika 2 no.5:18 8 '56.
(MLRA 9:11)

1. Lenproyekt.
(Schoolhouses--Lighting) (Electric lighting)

ZIL'BRR, D.A., professor; VOLOTSKOY, N.V., kandidat tekhnicheskikh
nauk; TELYAT'YEV, V.V., inzhener.

Letter to the editor. Svetotekhnika 2 no.6:28-29 N '56.
(Leningrad--Subways) (Electric lighting) (MLRA 9:12)

VOLOTSKOY, Nikolay Vasil'yevich; ZIL'BER, David Aleksandrovich; KNORRING,
Gleb Mikhaylovich; LAZAREV, D.N., redaktor; ZAKHAROV, P.P., redaktor;
ZABRODINA, A.A., tekhnicheskii redaktor

[Fluorescent lighting] Liuminestsentnoe osveshchenie. Moskva, Gos.
energ. izd-vo, 1955. 304 p. (MLRA 9:2)
(Electric lighting, Fluorescent)

VOLOTSKOY, N.V., kandidat tekhnicheskikh nauk

Scientific and technical conference on illuminating installations.
Svetotekhnika 1 no.1:27-28 F '55. (MIRA 8:9)
(Electric lighting)

ATZENBERG, Boris L'vovich; VOLOTSKOY, Nikolay Vasil'yevich; IVANENKOV, Mikhail Nikolayevich; KAMENSKIY, Mikhail Davidovich; KEZEVICH, Vasil'y Vasil'yevich; MEDVEDSKIY, Nikolay Ivanovich; NIKOGOSOV, S.M., red.; MELENT'Yeva, Ye.A., red.; SOBOLEVA, Ye.M., tekhn. red.

[Municipal electric systems; fundamentals of design and construction] Gorodskie elektricheskie seti; osnovy postroeniia i proektirovaniia. Moskva, Gos. energ. izd-vo, 1958. 328 p.
(Electric power distribution) (MIRA 11:9)

1. AYZENBERG, B. L., Docent: VOLOTSKOY, N. V.
2. USSR (600)
4. Electric Power Distribution
7. Remarks on E. S. Iokhvidov's and G. V. Serbinovskii's article
"Schemes of city networks in connection with multiple story building
construction." *Elektrichestvo* No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

1. VOLOTSKO Y, N.V.
2. USSR (600)
4. Fluorescent Lighting
7. Technical literature on luminescent lighting., Elektrichestvo , No.11, 1952
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

VOLOTSKOY, N.V., kandidat tekhnicheskikh nauk; KNORRING, G.M., inzhener.

Conference on lighting installations. From the Institute of Automatic and Remote Control of the Academy of Sciences of the U.S.S.R. Elektrichestvo no.8:92-93 Ag '53. (MLRA 6:8)
(Electric lighting) (Automatic control) (Remote control)

DOMASHIN, Valentin Aleksandrovich, inzh.; VOLOTSKOV, S.I., red.;
VORONIN, K.P., tekhn.red.

[Use and repair of flexible rubber cables in peat mining]
Ekspluatatsiia i remont gibkikh rezinovykh kabelei na torfo-
predpriiatiiakh. Moskva, Gos.energ.izd-vo, 1957. 94 p.
(MIRA 12:10)

(Cables, Electric)

VOICITSKOV, S. I.

42289: VOICITSKOV, S. I. - Za dal'neyshiy tekhnicheskiy rost kadrov torfopredpriyatiy.
Torf prom-st', 1948, No. 11, s. 14-16.

SC: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948.

VOLOTSKOV, S.I., inzhener.

Improving the planning of peat enterprises. Torf.prom.33 no.2:
8-10 '56.

(MLRA 9:6)

(Peat industry)

VOLOV, A.M. (Moskva)

Establishing tolerable limits of vibration in industrial work.
Gig.truda i prof. zab. 2 no.3:9-15 My-Je '58 (MIRA 11:6)

1. Tsentral'naya nauchno-issledovatel'skaya laboratoriya
gigiyeny i epidemiologii Ministerstva putey soobshcheniya.
(VIBRATION--PHYSIOLOGICAL EFFECT)

KUCHERYAVYY, F.I., dotsent; KOSTRIKOV, V.F., gornyy inzh.; KRYSIN, R.S.,
VOLOV, A.T., gornyy inzh.

Using air pockets in the detonating of borehole charges in
quarries. Vzryv. delo no.54/11:310-317 '64.

(MIRA 17:9)

1. Dnepropetrovskiy gornyy institut (for Kucheryavyy, Kostrikov,
Krysin). 2. Zaporozhzhvzryvprom (for Volov).

DAVYDOV, Vadim Vasil'yevich, prof., doktor tekhn. nauk. Prinsipal uchastnye VOLOV, D.I., kand. tekhn. nauk; VOYEVODIN, N.F., prof., doktor tekhn. nauk, retsenzent; POSTNOV, A.V., kand. tekhn. nauk, retsenzent; NOVIK, R.I., inzh., red.; VITASHKINA, S.A., red. izd-va; BODROVA, V.A., tekhn. red.

[Technical computations in ship-building] Tekhnicheskie vychisleniia v korablestroenii. Moskva, Izd-vo "Rechnoi transport,"
1961. 246 p. (MIRA 15:1)

(Shipbuilding)

VOLOV, L.D., inzh.

Chain conveyors with an automatic removing and hanging of buckets.
Mekh. i avtom. proizv. 17 no. 3:23-25 Mr '63. (MIRA 17:9)

VOLOV, L.D.

Automatic chain conveyor. Mashinostroitel' no.6:7 Js '63.
(MIRA 16:7)
(Conveying machinery)

VOLOV, L.M. (Moskva)

Training mathematics teachers according to the new programs. ^{Mat.}
v shkole no.2:82 Mr-Apr '62. (MIRA 15:3)
(Mathematics--Study and teaching) (Teachers, Training of)

VOLOVEL'SKIY, L.N.

Synthesis of methylcholanthrene from deoxycholic acid. Zhur.
ob. . khim. 34 no.7:2462-2464, J1 '64 (MIRA 17:8)

1. Ukrainskiy institut eksperimental'noy endokrinologii.

VOLOV, V.B., student V kursa; FILIMONOV, N.A., kand.tekhn.nauk, dotsent

Problems of variable speed transmissions. Nauch. rab. stud. GMSO
MGI no.7:168-185 1959. (MIRA 14:5)

(Power transmission--Transmission devices)

1. VOLOV, Yu.
2. USSR (600)
4. Solder and Soldering
7. Soldering aluminum with high-melting solder. MTS. 12, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

1st AND 2nd COPIES										3RD AND 4TH COPIES									
PROCEDURES AND CORRECTING INDEX																			
<div style="font-size: 2em; font-weight: bold; text-align: center;">CA</div>		<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p>Volov, N. D., Ivanov, A. D., Kutyrenko, A. I., Mikh- alenko, K. P., Khramov, N. N., and Shmidt, L. L. : Ruko- vodstvo k prakticheskim zaniatiyam po fizicheskoi khimii. 2d. rev. and enl. ed. Moscow-Leningrad: Gostkhimizdat. 1948. 210 pp. 6.50 r. 2.</p> </div>																	
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<div style="float: left; width: 10%;">CA</div> <div style="float: right; width: 10%; font-size: 2em;">18</div> <p>Preparation of zinc peroxide. K. D. Volovsk and T. Hrachina. <i>J. Applied Chem.</i> (U.S.S.R.) 14, 172-4 (1945).—ZnO (10 kg.) was dissolved in 22 l. concd. HCl in 40 l. water, filtered, and pptd. by 20 l. 12.5% NH₄OH. The hydrated oxide is thoroughly washed with water (6-7 days) and treated with 17.6 l. 28% H₂O₂ for 40-48 hrs., after which the product is filtered and dried at 60-70°. The av. ZnO₂ content is 63-6%, with 77% yield. ZnSO₄ can be used for the prepn. of the hydrate intermediate, where 96% yields are obtained. G. M. Kosolapoff.</p> <p>Concentrated hydrogen peroxide. L. M. White. <i>Chem. Eng. News</i> 23, 1636(1945).—The Germans produced a stable, pure 83-8% soln. of H₂O₂ as a war material. G. C.</p>																																																					
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LUTSKIY, A.Ye.; VOLOVA, L.M.; CHERNYAYEVSKIY, P.A.

Intramolecular hydrogen bonding and dipole moments in organic compounds. Part 8: 2,4- and 4,6-Diacetylresorcinols and their methyl esters. Zhur. ob. khim. 30 no.12:4085-4088 D '60.
(MIRA 13:12)

1. Khar'kovskiy politekhnicheskii institut.
(Resorcinol--Dipole moments) (Hydrogen bonding)

VOLOVA, L. M.

Experimental Station for Deep Freezing, Khar'kov, (-1939-).

"Research on the Equilibrium of the Coexistent Liquid and Gaseous Phases in the Binary Mixture of Methane--Ethylene."

Zhur. Fiz. Khim., Vol. 14, No. 2, 1940, pp. 268-76

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VOLOVA, L.M.

Investigation of atmospheric air in the quenching of coke with the phenolic waters of coking plants. II. 11.
N. Kalyuzhnyi, L. M. Volova, and E. S. Turetskaya
(Ukrainian Inst. Communal Hyg., Kiev). *Gigiena i Sanit.* 13, No. 8, 11-15 (1948). — Phenols are present in the air only if they were contained originally in the water used for quenching. With the use of phenol-contg. waste waters, the air around some coking plants contained 0.08-0.100 and 0.021 mg./cu. m. phenols at a distance of 500 and 1000 m., resp., from the towers. About 70% of the original phenols in the water are burned in the process of quenching. The use of the phenolic waste waters is unobjectionable if preliminarily freed from tars and oils.
N. Thon

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ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

MIKHAYLOV, F.K.; VOLOVA, L.M.; SHERMET'YEVA, G.I.

Kinetics of zinc chloride ammoniate formation at high temperatures.
Ukr. khim. zhur. 30 no.1s39-43 '64. (MIRA 17:6)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii.

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64-8-6/19

AUTHORS: Eygeles, M. A., Khonina, O. I.,
Volova, M. L.

TITLE: Selective Flotation of the Carbonate-Phosphorite Ore
(Selektivnaya flotatsiya karbonatno-fosforitnoy rudy).

PERIODICAL: Khimicheskaya Promyshlennost', 1957, Nr 8, pp. 25-28 (USSR)

ABSTRACT: The collective effect of the alkyl sulphate in the flotation of calcite, dolomite, and phosphorite was investigated here. At present some types of the sodium-alkyl sulphate are produced in the USSR as solutions for the textile industry. One of them was used here. It is produced from the fat of marine animals and has the general formula $R-O-SO_3Na$. (R contains 12 up to 20 carbon atoms). The obtained data show that the slightly alkaline medium is the best for the calcite flotation. In the dolomite flotation the pH -value zone of the medium is much broader and in the case of an introduction of great quantities of oxalic acid occurs an intensive flotation in the dolomite. In consequence of a much slower solution of the dolomite in the acid medium (than in calcite) an acid medium can be maintained in the flotation of the dolomite. In the flotation of calcite it was

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Selective Flotation of the Carbonate-Phosphorite Ore

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not possible to obtain a p_H -value of the pulp (dross) below 6. The comparison of the results in the flotation of the calcite and limestone shows that in the flotation by means of the alkyl sulphate the output of the calcite (according to the amount) is analogous to the output of the minerals by other collectors, whereas in the flotation of limestone the essential quantity of the great particles remain in the chamber product. It is assumed that this is connected not only with the more difficult carrying out of the flotation of the fine-crystalline limestone, but also with the natural impurity of it and with the considerably changing surface properties. The screen analysis of the flotation products shows that the essential content of carbonates in the refuse was obtained at the cost of the great particles of the fine-crystalline limestone. A reduction of the grain size of the flotation material up to -74μ guarantees a calcite output up to 90% in the case of a consumption of 750 g sodium alkyl sulphate per 1 ton of ore. Simultaneously an important part of the phosphate (circa 60%) is produced. In order to increase the selectivity in the flotation of the ores with alkyl sulphate the effect

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of the different flotation regulator was investigated here, of the fundamental ones as well as in the purification operation. The investigation of the most used regulator of sodium silicate, showed that in the introduction of the same into the pulp (dross) no considerable improvement of the selectivity occurs in the fundamental flotation. Great sodium silicate quantities exercise a depression on the flotation of the carbonates and phosphates. The introduction of the sodium silicate into purified flotations guarantee on the other hand good separation indices (in the separation of the carbonates from the phosphates). Comprisingly it is stated that the application of the sodium alkyl phosphate offers the possibility of obtaining from an ore with 16,8 % P_2O_5 and 20 % CO_2 a phosphate concentrate with 35% P_2O_5 with an output of 92%² of the initial product for the flotation. The most essential part of the limestone (85,4%) yields waste products. There are 4 figures, 6 tables, and 9 references, 7 of which are Slavic.

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Selective Flotation of the Carbonate-Phosphorite Ore

64-8-6/19

ASSOCIATION: All-Union Institute of Mineral Raw Materials
(Vsesoyuznyy institut mineral'nogo syr'ya).

AVAILABLE: Library of Congress

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VOLOVA, M.L.

MYOMLS, M.A.; KHONINA, O.I.; VOLOVA, M.L.

Selective flotation of carbonate - phosphorite ore. Khim. prom.
no.8:473-476 D '57. (MIRA 11:2)

1. Vsesoyuznyy institut mineral'nogo syr'ya.
(Carbonates) (Phosphorites) (Flotation)

VOLOVA, M.L.

21(4)	THE I BOOK EXPLOITATION	NOV/271A
	International Conference on the Peaceful Use of Atomic Energy. 2nd, Geneva, 1958	
	belly overtake; yabozhny goryzhny i reaktorov metall. (Reports of Soviet Scientists; Nuclear Fuel and Reactor Metals) Moscow, Atomizdat, 1959. 670 p. (Series: Ili; Trudy, vol. 3, 6, 100 copies printed.	
	Ma. (Title page): A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	
	NOV/271B: This volume is intended for scientists, engineers, physicists, and biologists working in the production and peaceful application of atomic energy for professors and students of schools of higher technical education where the subject is taught; and for people interested in atomic science and technology.	
	NOV/271C: This is volume 3 of a 3-volume set of reports on atomic energy. Presented by Soviet scientists at the Second International Conference on the Peaceful Use of Atomic Energy, held in Geneva from September 1 to 13, 1958. Volume 3 consists of two parts. The first part, edited by A.I. Izrael, is devoted to geology, prospecting, construction, and operation of nuclear power plants, metallurgy, and other industries. The second part, edited by V.A. Kuznetsov, is devoted to nuclear medicine, nuclear energy, and nuclear power. The title of the individual papers in most cases correspond word for word with those in the official English language edition on the Conference proceedings. See NOV/271D for the titles of the other volumes of the set.	
	NOV/271D: A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	
279	NOV/271E: A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	
289	NOV/271F: A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	
299	NOV/271G: A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	
286	NOV/271H: A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	
274	NOV/271I: A.A. Bakhov, Academician, A.P. Vinogradov, Academician, V.A. Izrael, Academician, V.A. Kuznetsov, USSR Academy of Sciences, and A.P. Kuznetsov, Director of Technical Sciences; M. (Inside book): V.A. Bakhov and O.A. Pashchenko, Tech. Sci. M.: M.I. Maslov.	

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5(1) 5.4400

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AUTHORS: Eygeles, M.A., Volova, M.L.

SOV/20-129-1-49/64

TITLE: On the Effect of the Temperature of the Medium on Induction Time in Connection With the Adhesion of Mineral Particles to an Air Bubble

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1, pp 177-180 (USSR)

ABSTRACT: The relationships so far discovered between the characteristics of the surface condition and the adhesion in connection with flotation are only qualitative (Ref 1). The device suggested by the author (Ref 1) for investigating the adhesion of mineral particles to an air bubble has recently been improved (by V.I. Luchkov, M.A. Eygeles, V.P. Kuznetsov etc.). A circulation thermostat (by V.P. Kuznetsov and E.Sh.Shafeyev) was used. The effect mentioned in the title was quantitatively investigated by the authors with constant age of the suspension and air bubble. Figures 1 and 2 show the above effect for various minerals in coordinates $\lg \tau$ and $\frac{1}{T}$ (τ - induction time in seconds). Induction time is rapidly decreased by increasing temperature. It drops to one tenth and one

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On the Effect of the Temperature of the Medium on
Induction Time in Connection With the Adhesion of
Mineral Particles to an Air Bubble

hundredth of a second in the case of several minerals and various particle sizes. Despite the dependence of induction time on particle size, the character of this dependence remains equal for particles of the same size - the straight lines ($\lg \tau, \frac{1}{T}$) are parallel. The collectors (Lauryl-Amin) considerably reduce induction time upon adhesion. The authors investigated the effect of the temperature of the medium on induction time in the presence of collectors (Ref 1). Figure 3 shows the joint effect of the collector and temperature increase. The higher the concentration of the collector in the solution (thus, the more quantities of it are on the surface of the mineral - the sorbed quantity is smaller than the monolayer) the weaker the effect of temperature increase on induction time. The experimental dependence of induction time on temperature is expressed by equation (1) : $\lg \tau = A/T + B$ (1); A and B = constants. In this case the authors proceeded from the assumptions of A.N. Frumkin and B.V. Deryagin (Refs 4,5). Temperature increase changes the

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On the Effect of the Temperature of the Medium on
Induction Time in Connection With the Adhesion of
Mineral Particles to an Air Bubble

SOV/20-129-1-49/64

condition of the double layer, the viscosity of water in the boundary layers, and the chemical composition of the surface compounds. The most important result of temperature increase within the medium, however, is increased agitation of the water molecules in the boundary layers. Consequently, these layers become unstable. Thus they become thinner and adhesion increases. If it is assumed that the mechanism of the heat conduction depends on this instability process of the wetting film, induction time may be considered to be characteristic of the total rate of the instability processes of the boundary layers on the solid surface and the separating layer of the air bubble. The apparent activation energy required to make the boundary layers unstable can be computed from the data characterizing the rate of the adhesion process. For this purpose a method analogous to that by Ya.I. Frenkel' (Ref 6) was used by the authors. Equation (1) is represented as equation (2) for τ . Table 1 shows the data computed from equation (2) for minerals of different nature and for different types of grinding. The collector introduced into the

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Induction Time in Connection With the Adhesion of
Mineral Particles to an Air Bubble

suspension rapidly decreases this energy so that it approaches zero at certain concentrations of the collector. It may be assumed that the sorption of the collector on the mineral surface considerably disturbs the wetting film. Thus the surface layers become unstable. In the case of sorption this task is accomplished by the collector. The apparent activation energy is not the only criterion of the adhesion process. Induction time is an additional characteristic of the process. There are 3 figures, 1 table, and 6 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (All-Union Scientific Research Institute of Mineral Raw Materials)

PRESENTED: June 25, 1959, by P.A. Rebinder, Academician

SUBMITTED: June 19, 1959
Card 4/4

VOLOVA, M. L.

FIGURES, M.A. (Prof.) and VOLOVA, M.L.

"Effect of Contact Time, Temperature, and Surface Condition on
the Adhesion of Bubbles to Mineral Surfaces."

Report to be presented at the Intl. Mineral Processing Congress, London, England, 6-9 Apr 60.
All-Union Scientific Research Institute of Mineral Resources, Leningrad. Fed. Eksp. S. S. S. R.

EYGELES, M.A.; VOLOVA, M.L.

Kinetic investigation of the role of collectors in adherence during
flotation. TSvet. met. 33 no.6:4-10 Je '60. (MIRA 14:4)

1. Vsesoyuznyy institut mineral'nogo syr'ra.
(Flotation—Equipment and supplies)

MYCELES, M.A.; VOLOVA, M.L.

Effect of dissolving a mineral on the properties of the
solution - air interface and on the induction time in sticking.
Dokl.AN SSSR 133 no.4:897-900 Ag '60. (MIRA 13:7)

1. Vsesoyuznyy institut mineral'nogo syr'ya. Predstavleno
akad. P.A.Rebinderom.
(Flotation)

EYGELES, M.A.; VOLOVA, M.L.

Effect of the solution of apatite on the time of induction in
flotation adhesion. Dokl.AN SSSR 138 no.5:1158-1161 Je '61.
(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya. Predstavleno akademikom P.A.Rebinderom.
(Apatite) (Suspensions (Chemistry))

EYGELES, M.A.; VOLOVA, M.L.; VOLVENKOVA, V.S.; UMIHOVA, Ye.G.

Radiometric investigation of the formation of calcium compound films at the solution-air interface and their effect on adhesion in flotation. Dokl. AN SSSR 147 no.1:166-169 N '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya. Predstavleno akademikom P.A. Rebinderom.
(Calcium compounds)
(Flotation)

EYGELES, M.A.; VOLOVA, M.L.; VOLVENKOVA, V.S.; UMNOVA, Ye.G.

Role of colloids in the flotation process. TSvet. met. 36
no.6:3-10 Je '63. (MIRA 16:7)

(Colloids) (Flotation)

EYGELES, M.A.; ANTONOVA, T.N.; KUZNETSOV, V.P.; VOLOVA, M.L.;
SAKHAROVA, Ye.P.; KOSYGIN, V.V.; KISLOV, A.V.; BALASHOVA,
G.G.

Simultaneous production of high-quality fluorite concentrates
from multicarbonate ores low in fluorite. TSvet. met. 37 no.11:
32-35 N '64. (MIRA 18:4)

EYCELES, M.A.; VOLOVA, M.I.

Effect of the flow of air bubbled on the formation of films of
calcium compounds on the surface of solutions. Dokl. AN SSSR
163 no.5:1205-1208 Az '65. (MIRA 12:8)

I. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
Submitted January 25, 1965.

LYGHELES, M.A.; VOLOVA, M.L.

Formation of films from products of the reaction of sodium oleate with a calcium salt at the solution - air interface and their effect on flotation sticking. Dokl. AN SSSR 166 no.4:883-886 F '65. (MIRA 12:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
Submitted July 27, 1964.

EYGELES, M. A.; VOLOVA, M. L.

"On the mechanism of activation and depressant action in soap flotation."

report submitted for 7th Intl Mineral Processing Cong, New York, 20-25 Sep 64.

VOLOVA, N.A.; VAGINA, Ye.G.

Analysis of the causes of late hospitalization of children with
tuberculous meningitis. Vop.okh.mat. i det. 1 no.1:66-70 Ja-F '50.

(MIRA 9:9)

1. Iz Detskoy tuberkuleznoy bol'nitsy rannego vozrasta. Vserdlovsk
(glavnyy vrach N.A.Volova)

(MENINGES--TUBERCULOSIS)

(CHILDREN--DISEASES)

VOLOVA, N.N.

Estrual cycle and morphological changes in the sexual organs
of rats following trauma of the sciatic nerve. Eksper.khir. i
anest. no.2:55-57'63. (MIRA 16:7)

1. Iz Instituta akusherstva i ginekologii (dir.-prof. O.V.
Makseyeva) Ministerstva zdravookhraneniya RSFSR.
(SCIATIC NERVE—WOUNDS AND INJURIES) (ESTRUS)
(GENERATIVE ORGANS, FEMALE)

VOLOVA, N.N., kand.med.nauk

Course and management of labor in the case of a large fetus.
Vop. okh. mat. i det. 7 no.2:70-73 F '62. (MIRA 15:3)

1. Iz rodil'nogo doma No.10 (glavnyy vrach O.V. Polyanskaya),
Moskva.

(LABOR, COMPLICATED)

VOLOVA, N. N., (Physician)

Dissertation: "The Course of Pregnancy, Estrual Cycle, and Morphological Changes of the Sexual Organs in Animals With a Trauma of the Sciatic Nerve." Cand Med Sci, Kishinev State Medical Inst, 19 May 54. Sovetskaya Moldaviya, Kishinev, 7 May 54.

SO: SUM 284, 26 Nov 1954

MULAGULOVA, G.A.; SOKOLENKO, G.S.; VOLOVA, P.I.

Work in eliminating favus. Zdrav. kazakh. 21 no.12:27-29
'61. (MIRA 15:3)

1. Iz kazakhskogo kozhno-venerologicheskogo instituta
(direktor - M.O. Omarov).
(FAVUS)

SIGOV, I.V., kand.tekhn.nauk; VOLOVA, T.A., inzh.

Planetary drive for the SN-150 mixer. Khim. mash. no. 3:37-39
My-Je '60. (MIRA 14:5)
(Mixing machinery)

SIGOV, I.V., kand.tekhn.nauk; VERUGA, V.F., inzh.; YOLOVA, T.A., inzh.

Motor-reducers based on high-speed electric motors. Vest.
mashinostr. 42 no.8:49 Ag '62. (MIRA 15:8)
(Electric driving)

VOLOVA, Ye.D.

Complex formation in aqueous solutions. Report No.1. Trudy
LTI no.61:52-59 '60. (MIRA 15:5)
(Complex compounds) (Solution (Chemistry))

VOLOVA, Ye.D.; YEGOROV, I.M.

Complex formation in aqueous solutions of electrolytes. Trudy
LTI no.61:60-64 '60. (MIRA 15:5)
(Complex compounds) (Electrolyte solutions)

VOLOVA, Ye.D.

BARON, N.M.; VOLOVA, Ye.D.; YEGOROV, I.M.; KVIAT, E.I.; MISHCHENKO, K.P.,
prof.; PONOMAREVA, A.M.; RAVDEL', A.A., dots.; SEMENOV, G.I.;
LOBINA, N.K., red.; ERLIKH, Ye.Ye., tekhn.red.

[Practical work in physical chemistry] Prakticheskie raboty po
fizicheskoi khimii. Pod red. K.P.Mishchenko i A.A.Ravdelia.
Leningrad, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1957. 263 p.
(MIRA 11:2)

(Chemistry, Physical and theoretical--Laboratory manuals)

MISHCHENKO, K.P.; PONOMAREVA, A.M.; RAVDEL', A.A.; BARON, N.M.;
YEGOROV, I.M.; KVIAT, E.I.; VOLOVA, Ye.D.; MARKOVICH, V.G.;
SEMEV, G.I.; MARGOLIS, V.N.; SMORODINA, T.P.; YAVORSKIY,
I.V. Primal uchastiye FRANK-KAMENETSKIY, V.A.; TOMARCHENKO,
S.L., red.; LEVIN, S.S., tekhn. red.

[Practical work in physical chemistry] Prakticheskie raboty po
fizicheskoi khimii. Izd.2., perer. Leningrad, Gos. nauchno-
tekhn. izd-vo khim. lit-ry, 1961. 374 p. (MIRA 15:2)
(Chemistry, Physical and theoretical--Laboratory manuals)

5(4)

PHASE I BOOK EXPLOITATION

SOV/1428

Baron, N.M., Ye. D. Volova, I.M. Yegorov, E.I. Kvyat, K.P. Mishchenko, A.M. Ponomareva, A.A. Ravidel', and G.I. Semenov

Prakticheskiye raboty po fizicheskoy khimii (Practical Work in Physical Chemistry) Leningrad, Goskhimizdat, 1957. 263 p. 11,000 copies printed.

Eds. (Title page): K.P. Mishchenko, Professor, and A.A. Ravidel', Docent;
Ed. (Inside book): N.K. Lobina; Tech. Ed.: Ye. Ya. Erlikh.

PURPOSE: This textbook was approved by the Ministry of Higher Education as a manual for students of vuzes specializing in chemistry.

COVERAGE: The text covers the theoretical and practical aspects of experimental physical chemistry. It is the aim of the authors to aid the student in his laboratory work by preceding each experiment with a theoretical introduction, a description of the apparatus, and the order of the determination and computation of results. Much attention is given to the fundamentals of chemical thermodynamics, reaction kinetics, and equilibrium. The basic techniques of

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experimentation and the treatment of experimental data are presented so as to enable the student to work independently. The text was prepared jointly by the staff of the Department of Physical Chemistry, Leningradskiy tekhnologicheskii institut imeni Lensovet (Leningrad Technological Institute imeni Lensovet) with K. P. Mishchenko and A.A. Ravdel' as editors, and N. M. Baron and A.M. Ponomareva as coeditors. The book was reviewed by Professors V.A. Kiryev, B.P. Nikol'skiy, corresponding member of the AS USSR, and by the staff of Professor Nikol'skiy. There are no references.

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Practical Work in Physical Chemistry

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Practical Work in Physical Chemistry

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